

List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 14 (Cancelled).

15. (New) An apparatus for the photometric measurement of concentration of at least one chemical substance in a solution, comprising:

a cuvette, for containing the solution,

said cuvette being transmissive for electromagnetic radiation, at least in predetermined regions;

a transmitting unit, which produces electromagnetic radiation in at least two wavelength regions and radiates into said cuvette, wherein the electromagnetic radiation in a first wavelength range serves for measuring purposes and wherein the electromagnetic radiation in a second wavelength region is used for reference purposes, and wherein the electromagnetic radiation in the two wavelength regions takes the same path through said cuvette and through the solution;

at least one detector unit, which is so arranged that it receives the electromagnetic radiation in the at least two wavelength ranges following its passage through the solution; and

a control/evaluation unit, which determines the concentration of the chemical substance in the solution on the basis of the electromagnetic radiation detected in the two wavelength regions.

16. (New) The apparatus as claimed in claim 15, wherein:

essentially oppositely lying surfaces of said cuvette are transmissive for the electromagnetic radiation radiated from said transmitting unit.

17. (New) The apparatus as claimed in claim 16, wherein:
said oppositely lying surfaces are ends or lateral surfaces of said cuvette, and
said cuvette is tubular.

18. (New) The apparatus as claimed in claim 16, wherein:
said transmitting unit and/or said receiving unit is/are arranged in the region of
the ends or the lateral surfaces of said cuvette.

19. (New) The apparatus as claimed in claim 15, wherein:
said transmitting unit is a multi-color, for instance a two-color, light emitting diode.

20. (New) The apparatus as claimed in claim 15, wherein:
an aperture is provided between said transmitting unit and/or said detector unit,
on the one hand, and the surface transmissive for the electromagnetic radiation, e.g.
end or lateral surface of said cuvette.

21. (New) The apparatus as claimed in claim 15, wherein:
an inlet is provided in a first end region of said cuvette, an outlet is provided in
a second end region of said cuvette; and
the inner diameter of said outlet is greater than the inner diameter of said inlet.

22. (New) The apparatus as claimed in claim 15, wherein:
said inlet and said outlet are arranged in extensions of the longitudinal axis of
said cuvette, or wherein said inlet and said outlet of said cuvette are arranged
essentially at right angles to the longitudinal axis of said cuvette.

23. (New) The apparatus as claimed in claim 15, wherein:
said inlet is arranged at a first predetermined angle to the longitudinal axis of said
cuvette and wherein said outlet is arranged at a second predetermined angle to the
longitudinal axis of said cuvette.

24. (New) The apparatus as claimed in claim 15, wherein:
at least said cuvette with said inlet and said outlet, and, optionally, said transmitting unit and said detector unit, are arranged as an integral measuring unit.

25. (New) The apparatus as claimed in claim 15, wherein:
said cuvette with said inlet and said outlet, said transmitting unit and said detector unit lie essentially in one plane.

26. (New) The apparatus as claimed in claim 24, wherein:
said measuring unit in the measuring position is inclined in such a manner relative to the horizontal plane, that said outlet of said measuring unit lies higher than said inlet of said measuring unit.

27. (New) The apparatus as claimed in claim 26, wherein:
the plane, in which said measuring unit is arranged, is inclined by an angle between 5° and 45° relative to the horizontal plane.

28. (New) The apparatus as claimed in claim 15, further comprising:
at least one heating element, via which the temperature of said cuvette is variable.